

GOUCHER COLLEGE
BALTIMORE, MARYLAND

DEPARTMENT OF BIOLOGY

March 2, 1940

Dr. Barbara McClintock
Dept. of Zoology
University of Missouri
Columbia, Missouri

Dear Barbara,

I am enclosing, after so long a time, your data on the segregation of heterozygous translocations in maize. Burnham, at the Christmas meetings in Columbus, told me that he was planning to do some further work on this problem, and that you had promised to send your data to him. I am very glad that someone working in maize is going to continue work on the problem. I am still very much interested in it myself, but have temporarily laid it aside until I can complete the study of the comparative susceptibilities to X-ray treatment of the ~~male~~ chromosomes in the male and female germ-cells of *Drosophila*. Perhaps by the latter half of this year I can get back to it. Your data interested me so much that I was unwilling to return them until my secretary had made a copy. Afterwards I had to check them for accuracy, and what with an experiment in progress, a pressing editor, and the flu, it has been impossible to get them off before now.

There are one or two things concerning which I have questions.

- (1) In 6-10T, how do you know that among the crossovers, the frequencies of orthoploid and aneuploid 1 gametes are equal? I didn't find the statistical data for this conclusion which is a very interesting one.
- (2) In 6-5Ta, what was the pollen sterility? Apparently it was 50% among the non-crossovers. How did it work out among the crossovers?
- (3) I am still unable to see why a symmetrical equal-armed cross figure, with the spindle attachments at the intersection of the cross ~~x~~ would logically yield one orthoploid: one aneuploid 1: one aneuploid 2. I should expect to get the ratio 2: 1: 1, as in the translocations studied in *Drosophila* by Dobzhansky and Starkevitch.

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On the whole, I think your data fit in very well with ^{my} ~~the~~ hypothetical analysis of the factors controlling segregation. There remains the question of the influence of the location of spindle attachments in conjunction with crossing over in interstitial regions where the chiasmata cannot terminalize. I hope to keep in touch with Burnham, and look forward to getting more light on these points.

Suzanne would send her regards if she knew I were writing. We often think of you, and the pleasant times we had together in Columbia. For my part I heartily wish I still had the stimulation I got from dropping in to talk things over with you.

Best regards,

Bentley